From: **Angela McFadden/R3/USEPA/US**
Sent: 12/28/2009 6:04:08 PM

To: David Sternberg/R3/USEPA/US@EPA
CC:
Subject: article on cement used for well casings

fyi

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From: Ex. 6 - Personal Privacy
To:
Date: 12/28/2009 03:30 PM
Subject: FW: yet another point of ignorance with overseeing drilling operations

I had heard that 50% of gas well casings may fail within 15 years, maybe this is why.

This story is even more unbelievable when you see the test results of what one Marcellus gas well owner found in the analysis of fluids from around his bubbling well casing near Hickory earlier this year.

Subject: yet another point of ignorance with overseeing drilling operations

unbelievable...

Friday, December 25, 2009

Cement firms may find opportunities in Marcellus Shale

Pittsburgh Business Times - by Anya Litvak

Amid concerns that some Marcellus Shale companies are using the wrong cement to encase the pipes that carry water and gas to and from the shale to the ground, there might be business opportunities for cement firms that may have idled during the recession.

The cement designed for the oil and gas industry has a ways to go to Pennsylvania, as there are no producers certified by the **American Petroleum Institute** to make it in the state. In fact, there is one such plant in the entire Northeast.

"Cement is fundamental in maintaining integrity throughout the life of the well and part of corrosion protection for casing," according to the institute's hydraulic fracturing guidelines, released in October. Around that time, representatives from the cement industry met with the DEP and members of the oil and gas industry to learn about the opportunities that might exist for cement companies.

As DEP's Deputy Secretary J. Scott Roberts noted, regulations that require drillers to use oilfield grade cement already exist in Pennsylvania. But until recently, DEP inspectors "simply weren't looking" at cement grade during their surveys, Roberts said. "As we go out and start enforcing the regulations that we already have," the situation will become more clear, he said. Roberts said the department became aware of the issue after newer operators moving to Pennsylvania from other parts of the country began complaining that they couldn't find the kind of cement they need to do the job, he said. "Which leads us to think, what's everybody been using?" Roberts said.

To make sure the industry sticks to the API standard, the DEP has drafted regulations scheduled to come out of the technical advisory board next month. Improperly poured cement or below-grade cement can allow gas to migrate to the underground water sources and wells.

The DEP's meeting with cement producers came five months after **Cabot Oil and Gas**, a Texas-based company with regional headquarters in Pittsburgh, received violation notices from the DEP for improperly cementing its wells in Dimock Township, where water wells were found to have gas in them and a leak caused one well to explode.

Patrick Reardon, executive director of the PCA/Northeast Cement Shippers Association, which represents 15 members in 13 states, has taken the lead in this effort. Currently, his organization is drafting a document that represents what cement producers in the Northeast are thinking about the business potential of retrofitting their plant to get API certified. "Obviously, we're interested in the opportunity it offers," he said. But the process typically takes about a year, Reardon said, and can be a costly investment for producers — around $100,000 — if they have to buy laboratory testing equipment to ensure each batch is up to par.

That may not be necessary, said Paul Ben ec, executive vice president of Armstrong Cement and Supply Corp. in Butler County. Armstrong has been providing cement to well service companies for years, Benec said, and it also serves Marcellus Shale operators. The company has weighed the idea of seeking API certification, but decided that, with its base of clients in the industry, the move hasn't been necessary. That's partly due to the fact that "Marcellus wells aren't going as deep as originally thought," Benec said. Instead of the 8,000 or 9,000 feet underground, where pressure and temperature forces require a different type of cement mix, operators are drilling 5,000 or 6,000 feet deep, he said.

For that kind of job, local cement producers already have the product, he said. Still, some say that for an industry hard hit by the decline in commercial construction, a new product in demand might be the golden ticket. Interested cement makers would need to prepare their operations for a different method of preparing the cement. "There's different grinds (for) different kinds of cement," said Roger Willis, president of Universal Well Services Inc. in Meadville. "Most of the cements around here (are) built for resistance."
But the cement necessary to protect the pipes and what's inside them from the different levels of freshwater aquifers, soil and porous layers of rock that stretch to the harder Marcellus Shale has a different function. It must withstand pressure and temperature unlike that of buildings and bridges.

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